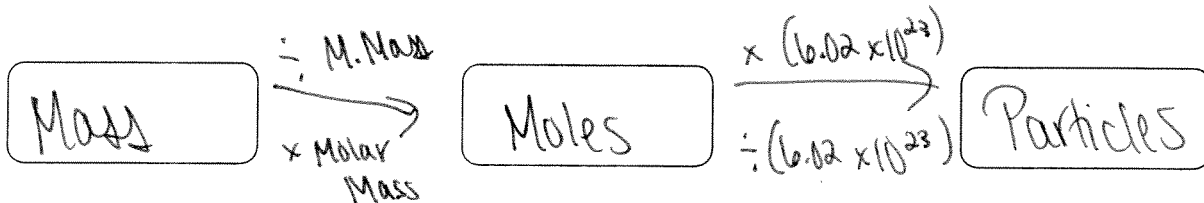


## MOLE REVIEW:

Name:

KANDRICK - Key



### Station #1: Molar Mass

Calculate the molar mass for the following compounds or elements. Be sure to include units.

1)  $N_2$   $14.01 \times 2 = 28.02 \text{ g/mol}$

5) Br  $79.90 \text{ g/mol}$

2)  $H_3PO_4$   $1.01 \times 3 = 30.97$   
 $30.97 + 16.00 \times 4 = 98.00 \text{ g/mol}$

6) Hg  $200.60 \text{ g/mol}$

3)  $NaNO_3$   $22.99 + 14.01 + 16.00 \times 3 = 85.00 \text{ g/mol}$

7) Li  $6.94 \text{ g/mol}$

4)  $NH_4Cl$   $14.01 + 1.01 \times 4 + 35.45 = 53.50 \text{ g/mol}$

8) S  $32.07 \text{ g/mol}$

### Station #2: Conversions between Moles and Atoms

Complete the following conversions between moles and atoms. Be sure to include units in your answers.

1) How many atoms are in 4.5 moles of NaBr?

$$4.5 \text{ mol} \times (6.02 \times 10^{23} \frac{\text{atoms}}{\text{mol}}) = 2.71 \times 10^{24} \text{ atoms}$$

2) How many moles are in  $5.5 \times 10^{23}$  atoms of Na?

$$\frac{5.5 \times 10^{23}}{6.02 \times 10^{23}} = 0.91 \text{ mol Na}$$

3) How many moles are in  $8.5 \times 10^{10}$  atoms of S?

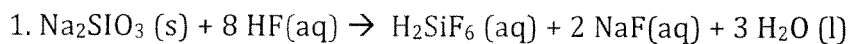
$$\frac{8.5 \times 10^{10}}{6.02 \times 10^{23}} = 1.4 \times 10^{-13} \text{ moles}$$

4) How many atoms are in 3.4 moles of H?

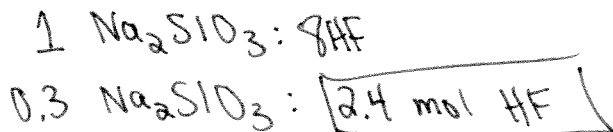
$$3.4 \times (6.02 \times 10^{23}) = 2.0 \times 10^{24} \text{ atoms}$$

# Stoichiometry Worksheet

Key



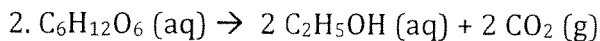
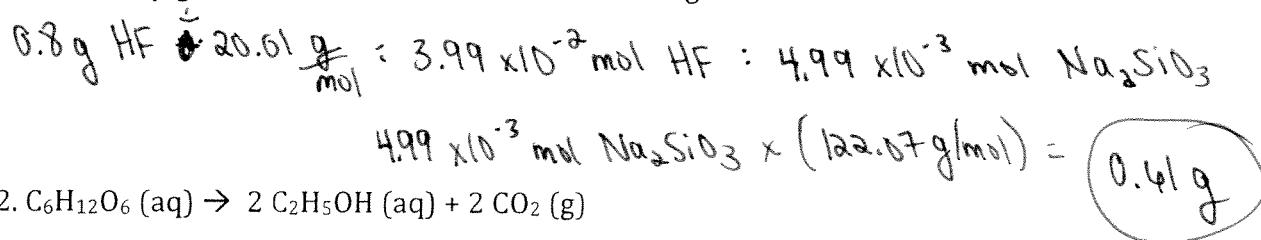
a. How many moles of HF are needed to react with 0.300 mol of  $\text{Na}_2\text{SiO}_3$ ?



b. How many grams of NaF form when 0.500 mol of HF reacts with excess  $\text{Na}_2\text{SiO}_3$ ?



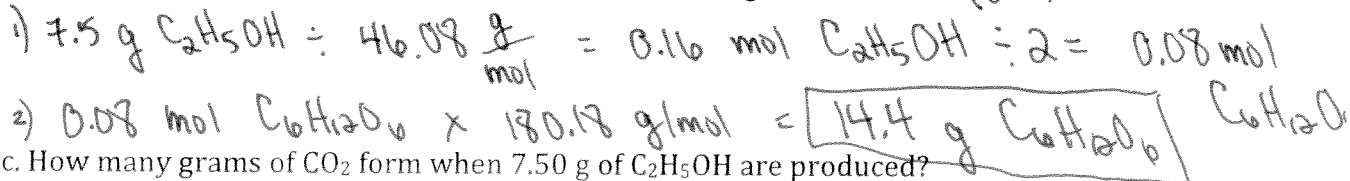
c. How many grams of  $\text{Na}_2\text{SiO}_3$  can react with 0.800 g of HF?



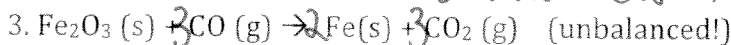
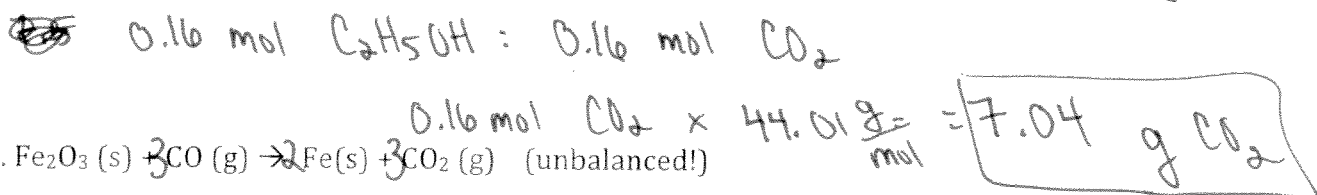
a. How many moles of  $\text{CO}_2$  are produced when 0.400 mol of  $\text{C}_6\text{H}_{12}\text{O}_6$  reacts in this fashion?



b. How many grams of  $\text{C}_6\text{H}_{12}\text{O}_6$  are needed to form 7.50 g of  $\text{C}_2\text{H}_5\text{OH}$ ? (2:1)



c. How many grams of  $\text{CO}_2$  form when 7.50 g of  $\text{C}_2\text{H}_5\text{OH}$  are produced?



a. Calculate the number of grams of CO that can react with 0.150 kg of  $\text{Fe}_2\text{O}_3$

